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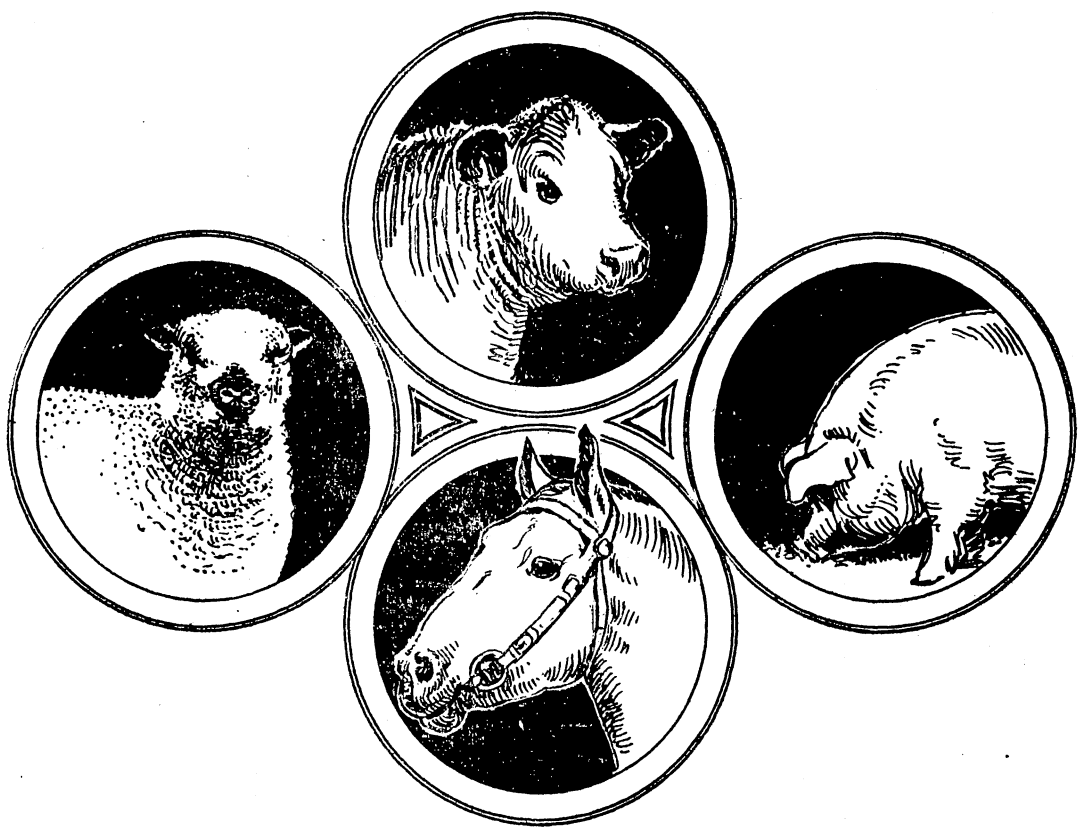
The EXTENSION ANIMAL HUSBANDMAN



UNITED STATES DEPARTMENT
OF AGRICULTURE
WASHINGTON,
D.C.

Serial No. 4 December, 1926

GRASS

All flesh is grass - The Bible.

Grass is the forgiveness of Nature -- her constant benediction. Fields trampled with battle, saturated with blood, torn with the ruts of cannon, grow green again with grass, and carnage is forgotten. Streets abandoned by traffic become grass-grown like rural lanes, and are obliterated; forests decay, harvests perish, flowers vanish, but grass is immortal. Beleaguered by the sullen hosts of winter, it withdraws into the impregnable fortress of its subterranean vitality and emerges upon the solicitation of spring. Sown by the winds, by wandering birds, propagated by the subtle horticulture of the elements, which are its ministers and servants, it softens the rude outline of the world. Its tenacious fibers hold the earth in its place, and prevent its soluble components from washing into the sea. It invades the solitude of deserts, climbs the inaccessible slopes and forbidding pinnacles of mountains, modifies climate and determines the history, character and destiny of nations. Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfare or the field, it bides its time to return, and when vigilance is relaxed, or the dynasty has perished, it silently resumes its throne, from which it has been expelled but which it never abdicates. It bears no blazonry of bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, and yet should its harvest fail for a single year famine would depopulate the world.

--John J. Ingalls.

UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D.C.

THE EXTENSION ANIMAL HUSBANDMAN

Issued by the Bureau of Animal Industry and the
Office of Cooperative Extension Work Cooperating

Serial Number 4 -- -- December 1926

A Happy and Successful New Year to all

With this issue we are rounding out the first year of our effort to provide an exchange medium for animal husbandry extension workers. Our part of it has been altogether a pleasure, the only concern being whether or not it is serving a useful purpose. Suggestions and criticisms that will aid in improving its value are at all times welcome.

State workers have given the publication very liberal support from the beginning, the present number being made up almost entirely of contributions from such source.

It is possible that discussions on various problems constantly confronting individual workers would be helpful to the group and with this thought in mind, a few suggested topics are proposed on which expressions of views are solicited:

Use of local leaders in animal husbandry work.
Single practice recommendations as applied to the field of animal husbandry.
Contests in animal husbandry work. Is their influence good or bad?
Does animal husbandry work reach a large enough proportion of farmers?
Advantages in the simplification of records, reports and other detailed requirements of demonstrators.
Special methods found effective in promoting animal husbandry projects.
Use of modern commercial methods of salesmanship in animal husbandry work.

Comments on any of these or other timely subjects are desired -- the aim being to satisfy the wishes of the group. What do you want?

-- C. D. L.

THE MISSOURI BEEF HERD DEMONSTRATION

By J. W. Burch,
Animal Husbandry Extension, University of Missouri.

About three years ago the members of the Animal Husbandry Department of the Missouri College of Agriculture became aware that a great liquidation of beef cows was taking place in the State of Missouri. In one instance four car loads of beef cows were shipped to market in a single day from one small shipping point. These cows were being sold because they were considered unprofitable. Men who were raising stocker calves and selling them at a price ranging from $25.00 to $30.00 per head were barely getting back the cost of the keep of the cow. The general impression abroad over the State among farmers and the financial advisers of farmers was that beef cows were unprofitable.

As a result of this liquidation of beef cows some of the farmers were turning to a strictly grain type of farming, others were shipping in scrub yellow cows culled from the herds of other States, and a few were getting some good foundation stock and going into the dairy business in a sound way.

Beef cattle, sheep, or dairy cattle must be handled for a permanent system of agriculture in Missouri. A typical Missouri farm of from 120 to 160 acres will have at least 40 acres of land which should be kept in permanent pasture. There will be another 35 or 40 acres of corn stalks, as well as straw stacks and hay. The only cash crop will be the corn and oats. Without some of the livestock mentioned before, this corn and oats will be sold, the rough feed will be wasted and very little of anything returned to the soil in the way of manure. Farms in Missouri on which a strictly grain type of farming is being practiced are being very rapidly depleted of their fertility. Heavy rains are carrying away thousands of tons of soil fertility every year, from rolling lands that are plowed and kept in row crops.

Lack of capital, feeding facilities, and experience on the part of the average farmer in Missouri has quite often made it impossible for him to buy cattle on the central market, ship them out to his farm, feed them, ship them back, and make a profit. The high price of stocker and feeder cattle, the relatively strong position of choice light weight cattle on thefat cattle market, the high freight charges, and the scarcity of really choice young stuff to feed, were other factors that, combined with those mentioned before, made it very necessary that some type of demonstration showing a profitable method of handling beef cows under Missouri conditions be worked out.

The animal husbandry department felt that it was stillpossible to make some money out of a herd of beef cows, if properly handled. There were a few men, such as D. R. Forrester of Livingston County and John Montgomery of Stoddard County, who were producing early calves and feeding

them on the cows and doing so apparently at a profit. This led to the establishment of a test at the Missouri station that showed up very well for the plan of feeding grain to suckling calves. Then followed the experimental work on the Sni-A-Bar Farms in cooperation with the U. S. Department of Agriculture. With this experimental work in progress a demonstration was outlined that undertook to show the most profitable method of handling beef cows under Missouri conditions.

The requirements for this demonstration are:

1. A herd of ten or more beef cows, preferably grade cows, though purebred cows are used where they are being kept for the production of commercial cattle only.

2. These cows must be bred to a good, blocky, early maturing kind of purebred bull.

3. Cow herds are selected that are bred for early calves. February 1 to April 1 calves are preferred.

4. These calves are fed grain, either hand fed or "creep" fed, while suckling the dams excepting in the Ozark sections of southern Missouri where very little grain is produced.

5. The calves are marketing at from 600 to 1000 pounds, depending upon the amount of grain produced on the farm, the time of year that the calves get fat, and upon market conditions.

Winter feed records from December 1 to May 1 are required on each herd of cows. A summer record, or grazing record, from May 1 to December 1 is also kept. In addition to this, a record of the amount of grain fed to calves is kept. During the months of May and June meetings are held on these demonstrations and the plan and method of feeding grain to the calves explained to those interested. This meeting is held at a time when calves that are to be fed should be put on feed and farmers interested in getting their own calves on feed can see exactly how it is being done on the demonstration farm. In addition to this, the May and June meetings come at the time of year when men are breeding their cows. It gives an excellent opportunity to discuss the value of purebred bulls and the breeding for early calves. It makes it possible to get some men, who do not have proper herd sires, to buy a good purebred bull at the time of year when he ismost needed.

Another meeting is held around December 1, when the year's record iscompleted. At that time, the year's feed cost of the cow can be figured, the bull charge and interest charge can be added to this, the cost of grain per calf is also added. The calves are appraised and their value.figured. Then the record sheet can be balanced and it can be shown exactly how much has been made or lost on the calves. In addition the best methods of handling a beef herd can be pointed out at this meeting. The value and necessity of using a good kind of a purebred bull can again be discussed. The mothers of the calves can be driven up in a lot next to the calves and the owner can show the dams of the good

calves as well as the dams of some of the poorer calves and thus furnish an excellent opportunity for the culling of the cow herd in a practical way.

During the past year records have been secured in Missouri on 23 herds of cows averaging 22 cows per herd, making a total of 517 cows. The average feed cost per head for the year is $19.10. Pasture and stalk fields were figured at customary local rental prices. Other feed was included at cash value. A bull charge of $2.00 per head and an interest charge of $4.20 per head added to the feed cost brought the total cost for the year to $25.30 per head. The manure produced and the saving by marketing crops at home was used to offset labor and depreciation.

To date figures are available on 8 bunches of calves including 145 head that show an average profit of $13.00 per head over the feed cost of the cow, the bull charge, and interest charge. Within the next month records will be completed on about ten more bunches of calves that will be marketed before Christmas. The other calves willbe fed through the winter and marketed as yearlings. Complete records of the feed cost up to marketing time on the calves fed on and marketed as yearlings will be kept wherever possible. The profit or loss on the entire operation will be determined when the calves are sold.

During the two years that this work has been actively pushed, a somewhat different feeling has been found among the farmers of the State who have small herds of beef cows. They talk more hopeful, they are taking better care of their cows, selecting better bulls , feeding their calves and marketing them without the loss of milk fat, and in the majority of cases are getting a good return for their labor. They are marketing their feed through their cows and calves, putting the manure back on the soil, keeping their rough land in pasture, maintaining the fertility of their farms, and are really practicing a diversified safe and sane type of farming.

Demonstrators are secured by the county agents themselves or by the county agent with thehelp of the animal husbandry extension specialist. The question can be raised in the mind of the cattle man as to whether or not his cow herd is making a profit. Then it is often possible to get him to carry out the demonstration in order to get the help of the extension men in keeping an accurate record on the business for the year.

The county agent checks up on the winter cow herd record in February and again in early May. By checking up at these dates the winter record is completed. Then when the winter record is completed to May 1, the grazing or summer record can be completed on a basis of local grazing charges per cow per month. This gives the year's record on the cost of keep of the cow.

Care must be taken by the agent that the calves are put on feed at the right time. This calls for at least one and usually two personal visits. The plan for keeping the record on grain fed the calves can be explained at that time.

State and county purebred cattle associations have assisted in finding proper demonstrators and urging these men to complete the work. The support of these associations can be secured by explaining to them that there can be no regular outlet for purebred bulls in the State unless the business can be put ona paying basis, and in such a way that it can be shown profitable to all interested when properly conducted.

T R U E

When he began it
Many sneered,
But when he conquered,
Then they cheered.

The quickest ones
To give applause
Are those who never
Help the cause.

Heed not the jeers,
Be brave, be strong;
Only the victor
Draws the throng.

What can be done
Men never guess,
Until it's proven
By success.

And those who sneer,
As you begin,
Willboldly cheer
The day you win.

- Edgar A. Guest.

SCHOOLS FOR LIVESTOCK JUDGES

By John W. Wuichet, Animal Husbandry Specialist,
Ohio State University.

With approximately 85 county and independent fairs being held in Ohio during the fair season of about ten weeks, the securing of competent judges for all of them is an important problem. For upon the quality of judging done will depend not only the satisfaction of the exhibitors, but also the educational value of the exhibition and the effectiveness of developing breed standards.

It is recognized that because of the expense involved most county fairs find it impossible to employ judges for each breed and only very few are in fortunate enough financial circumstances to employ a separate judge for each class of livestock, all of which complicates the problem very materially. With this in mind, the Animal Husbandry Extension Specialists conceived the idea of conducting a school for livestock judges at the University.

For three years such schools have been held, two days each year being devoted to the work. The first year, one day was devoted to swine and one day to beef cattle; the following year, one day each to dairy cattle and sheep; the third year a return was made to swine and beef cattle. This division of the work is arbitraryand it is hoped to include horses at some future date.

The first move was to enlist the interest of the Ohio fair managers and at the annual meeting of that group of men, the proposition received their endorsement and support. The president of this association communicated with each fair secretary, requesting him to send to the Animal Husbandry Specialists, the names of his livestock judges for previous years. These men, in turn, were written to by the specialists, the object of the school explained and their attendance requested. Further publicity for the school was given by the press and through the county agents.

The next step was to interest the breed record associations to the extent of providing someone qualified to discuss with authority breed characteristics. An effort was made to secure a breed secretary or an officer of the association for this work. Most of the associations responded but some did not. Upon the ability of these representatives to discuss fully and clearly the characteristics of their breed will depend, ina large measure, the success of the school. In addition to the breed representatives, a competent man was secured to lead the discussion each day.

At no time, did the college men attempt to dictate the most

desirable type within the breeds. That policy might be open to question, but the assumption was that the College should act principally as instructors and guides rather than dictators of type.

No attempt has been made to furnish certificates to the men in attendance at the schools, but some sort of recognition may be a part of the future plans for the schools. However, even without any definite certification of judges, the school seems to have served the purpose for which it was intended, in that it has helped materially to clarify many of the questions of breed type and judging policies. It has also helped to provide a list of men who may more intelligently be recommended to the fairs as judges by the College when called upon.

PERSONALS

Texas - A. L. Ward, Swine Specialist, resigned to enter the employ of a commercial concern and has been succeeded by E. R. Eudaly, late county agricultural agent and formerly livestock agent for the Queen and Crescent Railway.

South Carolina - E. G. Godbey, who had a leave of absence of several months has returned to his former position of animal husbandry specialist.

THE FULLNESS OF OUR DAY

"When every farmer in the South shall eat bread from his own fields and meat from his own pastures and disturbed by no creditor, and enslaved by no debt, shall sit amid his teeming gardens, and orchards, and vineyards, and dairies, and barnyards, pitching his crops in his own wisdom and growing them in independence, making cotton his clean surplus, and selling it in his own time, and in his chosen market, and not at a master's bidding -- getting his pay in cash and not in a receipted mortgage that discharges his debt, but does not restore his freedom -- then shall be breaking the fullness of our day." -- Henry W. Grady, 1888.

PRACTICAL PORK PRODUCTION IN NORTH CAROLINA

By W. W. Shay
Swine Specialist in North Carolina

It would appear that when contemplating the production of any article on a commercial scale, the market for the finished product should be given consideration first.

For this purpose, a study of prices over a considerable number of years is necessary in order that a fairly reliable average may be obtained, and reasons for fluctuations studied. (See chart). Variations in price due to quality or grade should receive attention, and the comparative cost of producing these various grades ascertained.

The next matter to be studied is cost of production, and this must be studied and measured from the standpoint of profit, for it will be discovered rather early in the course of an intelligent study of pork production, that the cheapest gains are not necessarily the most profitable; that volume of production per unit is also a very potent factor in the creation of profit. (See example).

Some time-worn methods of measuring the cost of production may have to be thrown overboard in the search for truth; for instance, the market price of corn does not enter into the consideration unless the corn is bought. This practice is hardly conceivable under a system calculated to continue through a period of years, and which will endure a succession of fluctuations of the corn and hog price ratio; also, the usual custom of charging one variety of feed at cost, and another at the market price should be discarded; this practice is well represented by the customary manner of charging the two crops, corn and soybeans.

It is therefore necessary to know the approximate cost of producing feed on the farm where the enterprise is to be conducted, if the actual cost of producing pork there, is to be learned.

When the average cost and yield per acre of various crops is known, a study of the results obtained by many experiments stations, records of which are available for the asking, make it a simple matter to reduce the problem to one of pounds of pork, and value of same per acre of crop, plus supplement. By the time this is done, it will have been discovered that on farms of a fair state of fertility, where crops are grown for the specific purpose of hogging down, it really costs more to produce "oily" hogs than it does to produce hard ones which bring $2.00 more per 100 pounds. This is true because at a slightly greater cost of production per acre of crop, whenboth are planted on land of medium to good fertility, corn will produce from fifty to over one hundred per cent more feed per acre than soybeans; and the amount of fish meal or tankage necessaryto balance it properly for the best

returns from shoats weighing from 100 to 125 pounds, costs only about $1.25 per 100 pounds gain.

A little further investigation shows that there is a very close relationship existing between the yield of crop per acre and the cost of producing pork.

From this it is an easy step to figure in terms of pounds of pork per acre of crop when it will readily be seen that at practically the same per acre cost of producing the corn, the amount of pork per acre may vary from approximately 286 pounds on a 20 bushel yield to 858 pounds on a 60 bushel yield.

In the case of the smaller yield the cost of producing 100 pounds of pork would be approximately $7.85, while on the larger yield it would cost around $3.50.

The next step is the proper balancing of the feeds. As we have found that corn, whengrown on good land, is the cheapest available feed, and also produces a carcass of high quality, it is only logical that it should be used to as great an extent as possible without decreasing profit, the maximum of which is the objective sought.

A thorough study and comparison of the results of many experiments will show that for the most profitable results, feed should be balanced for swine according to their age and weight.

For the sake of convenience, the Office of Swine Extension several years ago worked out formulas for four slop mixtures designed for use in succession; each to be fed in connection with an equal amount, by weight, of corn. In order to avoid purchasing an unnecessary amount of supplemental feeds, corn meal was substituted for wheat mill feeds to as great an extent as appeared profitable, as a carrier for fish meal or tankage.

It was found by this method, that a weanling pig weighing 35 pounds, if kept on full feed, could be carriedon a well balanced ration to a weight of 200 pounds, by purchasing only 50 pounds of either fish meal or tankage, and 50 pounds of Red Dog, corn constituting about 85 per cent of the total feed.

These slop mixtures are known as: Numbers 1, 2, 3, and 4, and are used consecutively. They are madeup as follows:

	Proportions			
	No. 1	No. 2	No. 3	No. 4
Fish meal or tankage	1	1	1	1
Corn meal	1	3	4	6
Red Dog or high grade shorts	2	1	1	0

For each pound (dry weight) of any of the slop mixtures, a pound of corn should be fed separately.

Where the climate permits, breeding operations should be so timed as to conform to the seasonal price trend as shown later.

The advisability of full feeding at all times, hogs intended for pork, is suggested by the following:

"TIME IS MONEY" EVEN IN THE HOG LOT

Rapid gains are, as a rule, cheap gains, but, as willbe seen by the examples below, rapid gains, even at increased cost, may be more profitable than cheaper gains of less quantity. To illustrate: An increase of 100% in production at a decrease of 25% in the percentage of profit will result in an increase of 50% in total profit.

Example

A profit of 4¢ per pound on 50 pounds equals	$2.00
A profit of 3¢ per pound on 100 pounds equals	$3.00
Increase in total profit 50%, or	$1.00

AS APPLIED TO A PIG

The following may be considered as representing a weanling pig starting out at a weight of 30 pounds and being full fed through four successive periods of 35 days each -- a total of 140 days -- to a weight of 225 pounds. As his stomach capacity increases, rate of gain and feed consumption per pound of gain, and consequently cost per pound of gain, also increase. Nevertheless, if the rate of gain is is increased sufficiently, total profit will also increase under normal conditions of cost and price.

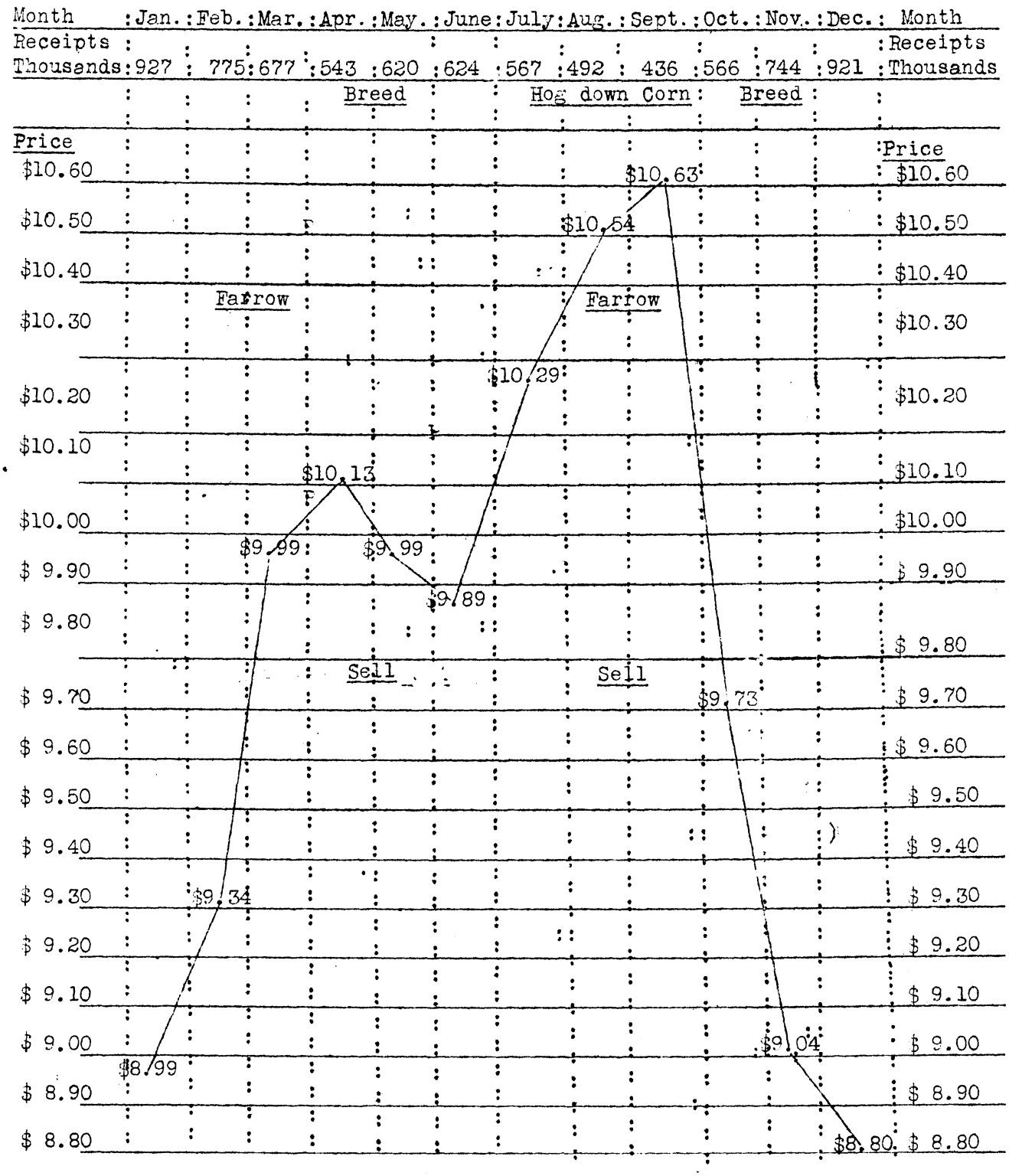
Period	In'l weight	Final weight	Gain for period	Value of gain @ 10¢	Cost per 100 lbs. gain	Total cost of gain	Profit
1st	30	60	30	$3.00	$6.00	$1.80	$1.20
2nd	60	105	45	4.50	6.33	2.85	1.65
3rd	105	160	55	5.50	6.66	3.66	1.84
4th	160	225	65	6.50	7.00	4.55	1.95
4	30	225	195	$19.50	$6.59	$12.86	$6.64

The answer to that old wheeze: "What does a hawg's time amount to?"

SEASONAL MARKET TREND OF HOGS

Average Price ~~and Receipts~~ of Hogs by Months

18 Year Period, 1907-1924 inclusive Chicago Market
Eastern Market Price about $0.75 Higher



THE HOOSIER GOLD MEDAL COLT CLUB

By P. T. Brown - Purdue University

The Hoosier Gold Medal Colt Club during its first year has demonstrated conclusively that a horse extension project can be effectively organized; and that horsemen will readily respond and cooperate, to the same extent as is true in the case of other livestock projects. This will be encouraging news to many county agents and extension specialists because I have heard many of them say that they would be glad todo horse work but it didn't seem to lend itself to extension methods. Other persons have the idea that only horsemen in the purebred business or show game have a deep interest in the promotion of any movement calculated to stimulate the breeding and better care of horses but my experience with the Hoosier Gold Medal Colt Club would indicate otherwise.

This club is a cooperative project promoted jointly by the Indiana Livestock Breeders' Association, the Indiana Draft Horse Breeders' Association, and the Purdue Extension Service. The objects of the club are: 1. to actively encourage proper feeding and care of draft bred colts during their first winter and second summer; 2. to encourage and revive the old fashioned horse show and promote bigger exhibits at fairs; 3. to attract public attention to the stallions that are consistently siring the best class of colts. These objects clearly indicate that the club is economically sound because based on the fundamental principles of better breeding, feeding and management.

In brief, the club rules provide: that colts shall be weighed in during the fall and weighed out on the same date one year later; that the Indiana Livestock Breeders' Association will award gold medals to theowners of those colts that gain 600 pounds ormore during the year, silver medals for colts gaining from 500 pounds to 600 pounds, and bronze medals for colts gaining from 400 pounds to 500 pounds; and that the colts must be exhibited as yearlings at an approved fair. The rules further provide that in case a colt which has made the gain of 600 pounds is so manifestly lacking in quality and type that it is defeated in the show-ring by another colt of the club that has made only a 500 pound gain or perhaps a 400 pound gain, thenthe big colt forfeits its right to a gold medal and must accept the same kind as is awarded the lighter but better colt.

The experience of Hancokk County horsemen under the leadership of County Agent M. E. Cromer and his successor, Warren O'Hara, will serve to illustrate the way the club is organized in the counties. As soon as the Gold Medal Colt Club project was announced in November 1925 by the Animal Husbandry Division of Purdue, Cromer sent a circular letter to his stallion owners. This letter explained the newly announced project and invited the stallion owners to a meeting in his office, Previous to the date set for this meeting Mr. Cromer visited most of these stallion men personally. At the meeting the rules were carefully explained and each stallion owner agreed to try to get several of his colt owning patrons to nominate colts. The net result of their combined efforts was a total of fourteen colts nominated. During the

winter months instructions for feeding the colts and providing ample outdoor exercise were sent to each member. An occasional news article in the county papers telling of the monthly gains being made by some of these colts and the methods of feeding and management being used served to keep up a very keen interest, not only among the members but among farmers generally throughout the county.

In July some three weeks previous to the county fair a tour was held and all the colts inspected by themembers and others. On this tour considerable attention was given to foot trimming and fitting for the show. Demonstrations on foot trimming and also on decorating andshowing the draft horse were staged at the homes of two of the members. The object of this latter demonstration was to show the equipment needed to show a horse and to demonstrate the standard methods of decorating and showing. At the county fair the club made a splendid display of yearling colts. The members were unable to do their own decorating so they hired a man to do it for them and thus put on a snappy show. Final weights will be taken in December and all indications are that all the colts that were exhibited will show a gain of 600 pounds or more.

The results of this first year's work in Hancock county are many and interesting. They may be summarized as:

1. A keener appreciation of the necessity for liberal and proper feeding.

2. The focussing of public attention upon the outstanding sires of the county.

In connection with the first point regarding feeding, it is well to note the pride of the members in the size of their yearlings. They like to tell how many of their friends and neighbors thought their yearling at the fair was a two year old.

A very decided effect has been the attention attracted to the ability of the various stallions to sire high class colts. The champion colt of the show mentioned was sired by an eighteen year old imported Belgian stallion. This champion colt had size, conformation, quality, style, and color and was so outstanding that other club members began to drew their own conclusions about the sires of their owncolts. Another filly sired by this same old horse stood next in class to the champion and was also an outstanding colt. Thisis just the result honed for by those who conceived the idea of the Hoosier Gold Medal Colt Club. The stallion problem is one of the biggest that confronts Indiana horsemen and this club is intended to direct attention not only uponthe importance of feeding and developing large draft yearlings with quality, but also upon the stallions that aresiring these good colts.

RESULTS OF MINNESOTA'S

FIRST ANNUAL CARLOAD BABY BEEF CONTEST

By A. A. Dowell,
Animal Husbandry Extension,
University of Minnesota.

The Minnesota Carload Baby Beef Contest was made possible through the liberal financial support which it received from the Minnesota Livestock Breeders' Association; from every interest on the South St. Paul livestock market including the packers, commission companies, and stockyards company, and from the American Hereford and Shorthorn Breeders' Associations.

The first annual contest was thrown open for entries during the spring of 1925. Within a few weeks forty beef cattle breeders and feeders, scattered throughout the State, had entered with 15 calves each, or a total of 600 head.

Fifteen calves were required to make the "carload" entry. As stated in the rules, they had to be bred and fed by the contestant. It was further required that the calves be dropped on or after February 1, 1925, and on or before July 31, 1925. Only calves sired by a registered beef bull and out ofbeef bred cows, were eligible. Each calf in the carload was given a separate ear mark for identification, and entered when but a few weeks old, on a separate enrollment card, showing date of birth, name and number of sire, identification of dam, and ear mark of the calf. To avoid the possibility of any contestant being forced to drop out due to the loss of one or more calves, each was allowed to enter as many as 20 calves if desired -- 15 of course being the required number. To insure the results being as practical as possible, "nurse cows" were barred. No other limitation was placed on the kind of feed or method of handling.

The contest closed, insofar as anyone entry was concerned, when the average age of the 15 calves in the carload was 450 days, or approximately 15 months. Each contestant then had the privilege of selecting the 15 heaviest calves out of the number entered.

Awards were based on final weights at the farm. The heaviest carload was awarded first prize, the second heaviest load second prize, etc. The first load to average 450 days of age was weighed out on June 12, 1926, and the last load on August 10, 1926.

The objects in initiating this project were as follows: -

1. To apply a measuring stick to beef production. It was believed that in the same herd there would be a variation of $10.00, $15.00 or perhaps $25.00 in the valueof the best as compared to the poorest calves at 15 months of age. If all calves were produced under identical conditions and sired by the same sire, it would seem that any

GENERAL DISCUSSION OF RESULTS

In reviewing the results it was observed that no one breed had a monopoly on weight. In each of the ten top carloads there was more difference in weight between the lightest and heaviest calves, age considered, than there was in the weight of the first and tenth prize loads. As the calves on any one farm were fed together, and in most instances, sired by the same bull, it would appear that baby beef producers can do much to increase the productivity of their breeding herds by weeding out their inferior breeding cows.

It is not safe however, to weed out the cows at weaning time for as pointed out by many of the men in this contest, a calf in just fair condition at that time may pass the rest of the lot by the close of the feeding period. For a heavy milk flow may produce a good fat calf up to weaning, but it takes the breeding or inheritance as well as the right kind of feed, to insure weight at the time of marketing.

Too many baby beef producers have been accustomed to thinking in terms of a carload of cattle, a crib of corn and a stack of hay. They have been overlooking the so-called little things. Results secured in this contest show that it is high time that more attention was given to the individual calf and its dam. To be able to weed out the inferior breeding cows in the beef herd, it is absolutely essential that theage and identity of each calf be known and recorded.

Thirteen of the calves entered by one contestant were weighed individually on the day each was 12 months of age. All were by the same sire and fed and handled alike. The weights were as follows: 950 lbs., 920 lbs., 835 lbs., 830 lbs., 810 lbs., 803 lbs., 765 lbs., 760 lbs., 760 lbs., 750 lbs., 735 lbs., 725 lbs., and 690 lbs.

There were 167 steers and 88 heifers that finished the contest. The average final weight of the steers was 832 lbs. at 449 days of age and of the heifers 873 lbs. at 451 days of age.

One contestant had 10 steers and 10 heifers. They were weighed at 10 and 12 months of age. At 10months the steers outweighed the heifers an average of 63.5 lbs. per head and at 12 months the advantage of the steers was increased to 78.4 lbs.

The men ranking near the top all used bulls of either medium or large type. These bulls were not "leggy", thin-fleshed nor coarse-boned but had scale combined with thick flesh and quality. In show condition theywould weigh from 2000 to 2600 pounds. Their cows were also classed as medium to large. They would not be called heavy milkers but gave enough milk to carry their calves to weaning time in good condition.

None of the calves were criticized by the buyers for being rough or coarse and all of the ten top loads were graded as prime on the markets. In each case the heifers were sold with the steers, but in some of the heavier loads their presence made it necessary to take a slightly lower price for the group, than would have been bid for the steers alone, because the heifers were heavier than the market wanted.

We have been very much pleased with the results obtained in this project to date. It is being continued for the second year with slight modifications and remains popular with our cattlemen.

A bulletin giving more details of the contest is now available and will be furnished to interested parties upon request.

U. S. D. A. Motion Pictures and Lantern Slides

The Department now has available for distribution to extension workers and certain other responsible agencies a large number of motion picture films and lantern slides. There are about 300 different films and some 135 series of lantern slides.

Publications containing lists of titles and telling how this material may be obtained, will be sent upon request.

Inquiries regarding films should be addressed to Office of Motion Pictures and Slides, Office of Cooperative Extension Work, both U. S. Department of Agriculture, Washington, D.C.

Men must be taught, as if you taught them not, and things unknown proposed, as though forgot. -- Pope

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NEW STATE PUBLICATIONS

The following bulletins of recent issue are of interest to animal husbandmen:

"Mineral and Vitamin Requirements of Pigs" by G. Bohstedt and others - Ohio Experiment Station Bulletin No. 395.

"Equipment for Hogs" by A. L. Durant - South Carolina Extension Service Bulletin No. 71.

"Brood Sow and Litter" by L. A. Weaver - Missouri Extension Service Circular No. 172.

"Butchering Hogs" by Harry Smith - Colorado Extension Service Publication No. 249-A.

"The Physical Composition of a Lean, a Half Fat and a Fat Beef Carcass and the Relative Cost of the Nutrients Contained in Each" by A. T. Edinger - Missouri Experiment Station Research Bulletin No. 83.

"Wintering Beef Calves and Yearlings in Northern Montana" by Arnett, Baker and Vinke - Montana Experiment Station Bulletin No. 188.

"Wintering Beef Cows in Northern Montana" by Arnett, Baker & Vinke - Montana Experiment Station Bulletin No. 187.

"Wintering Steers With and Without Corn Silage Preparatory to Finishing on Grass without Grain" by E. S. Good - Kentucky Experiment Station Bulletin No. 267.

"Steer Feeding in Colorado" - Colarado Extension Service Bulletin No.195-A.

"The Salt Consumption of Sheep; Fattening Lambs" by J. M. Evvard and others - Iowa Experiment Station Research Bulletin No. 94.

"Ewe and Lamb Clubs" by Russell and Martin - Missouri Extension Service Boys' and Girls' 4-H Club Circular No. 20.

"Soybean Hay for Fattening Lambs" by J. M. Evvard and others - Iowa Experiment Station Bulletin No. 234.

"Lamb Feeding Investigations" by Reed and Marston - Kansas Experiment Station Circular No. 123.

"Diseases of Colorado Feeding Lambs" - Colorado Experiment Station Bulletin.

"Wool Production" - Washington Extension Service Bulletin No. 136.

"Feeding and Handling Livestock to Prevent Shrinkage and Loss" by Paul Gerlaugh - Ohio Extension Service Bulletin.

IOWA FEEDER AND FAT CATTLE DEMONSTRATION AND MEAT EXHIBIT

By Rex Beresford,
Animal Husbandry Extension Iowa.

The combined exhibit and demonstration to be described was a feature of the 1926 Iowa State Fair at Des Moines. It was made possible through the assistance rendered us by various livestock and meat interests represented on the Omaha market, the National Livestock and Meat Board, the Iowa State Fair, certain refrigerator and cooling companies and the U. S. Department of Agriculture.

The exhibit was placed just inside the main entrance to the cattle barn -- an excellent location. Thirty-two live steers furnished by the livestock and meat interests at Omaha, were shown to represent the following market grades: choice feeder, choice fat, good feeder, good fat, medium feeder, medium fat, common feeder, common fat. Four steers were included in each grade group. The object of this demonstration, in connection with the display of the market grades of dressed beef, was to show the relationship between the feeder steer ready for the feed lot, the fat steer ready for slaughter and the wholesale and retail cuts of beef from fat steers of corresponding grades.

The real importance of the story to the cattle feeder was pointed out by legends stating that feeder steers are separated into the different grades largely because of the breeding they possess, while the grade of the fat animal depends not only on breeding but also on the feed and care they have received during the fattening period.

The market grades of beef were displayed under refrigeration and included sides of carcasses and wholesale and retail cuts from animals representing the same grades and approximate weights as shown on foot. Here again, placards called the attention of spectators to the factors responsible for the meat grades, such as color of both fat and lean, grain and fineness of fiber of the lean, marbling, thickness of cover, relative waste, thickness and distribution of external fat, etc.

The importance of studying markets in the light of past performance was shown by approximate graphs and explanatory legends. The seasonal price trends were shown indicating that the better grades of slaughter cattle are usually higher in price during the months of August, September and October, whereas this is the low time for the low grades of fat steers, cows and heifers; that feeder cattle prices are usually highest during August, September and October and, quality considered, lowest during November and December; that March, April, May and June usually have been the high market for common to medium grades, with least spread between them and higher grades of equal weight, etc.

Feeding data taken from the results of experiments at the Iowa Agricultural Experiment Station were shown in graphic form to illustrate how a fattening ration of shelled corn and clover hay was improved by the addition of. first, linseed oil meal and secondly, corn silage.

Another section was devoted to a portrayal of the results obtained in fattening 5 lots of steers, all fed in the same way excepting for the fact that the roughage used were clover hay, alfalfa hay, mixed hay, corn fodder and timothy hay, the basal ration in each case being shelled corn and cottonseed meal.

In another feature it was shown that oats has no place in a fattening ration for two-year old steers, as it produced growth rather than finish.

An almost identical reproduction of this exhibit was put on during the Interstate Fair at Sioux City. All cooperating agencies were highlypleased with theresults of both efforts,and plans are already under consideration for repeating the work from somewhat different angles next year.

All communications with regard to this publication should be addressed to -

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Washington, D.C.